



Hazen Research, Inc.
4601 Indiana Street
Golden, CO 80403 USA
Tel: (303) 279-4501
Fax: (303) 278-1528

Lab Control ID: 19F01493

Received: Aug 16, 2019

Reported: Sep 05, 2019

Purchase Order No.

None Received

Customer ID: 03522Z

Account ID: Z00372

Russell Huffman
Desert View Power, Inc.
62-300 Gene Welmas Drive
Mecca, CA 92254-0758

ANALYTICAL REPORT

*Report may only be copied in its entirety.
Results reported herein relate only to discrete samples
submitted by the client. Hazen Research, Inc. does not warrant
that the results are representative of anything other than the
samples that were received in the laboratory*

By: _____

Mark A. Pugh
Fuel Laboratory Manager



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ANALYTICAL REPORT

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Desert View Power, Inc.

Customer Sample ID

Boiler Fuel Feed 8/12/19

Lab Sample ID

19F01493-001

pH of a 25% Mixture

5.66

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Customer Sample ID		Boiler Fuel Feed 8/12/19
Lab Sample ID		19F01493-001
Sodium in Ash as Na ₂ O	%	3.26
Potassium in Ash as K ₂ O	%	4.79
Chlorine in Ash	%	0.45
Carbon Dioxide in Ash	%	1.28

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The sample was ashed at 600 degrees celsius prior to analysis.



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Desert View Power, Inc.

Client Sample ID Boiler Fuel Feed 8/12/19

Lab Sample ID 19F01493-001

Reporting
Basis >

As Rec'd

Dry

Air Dry

Proximate (%)

Moisture	19.29	0.00	2.94
Ash	7.89	9.78	9.49
Volatile	57.90	71.74	69.63
Fixed C	14.92	18.48	17.94
Total	100.00	100.00	100.00

Sulfur	0.108	0.134	0.130
Btu/lb (HHV)	5998	7431	7213
Btu/lb (LHV)	5371	6900	
MMF Btu/lb	6555	8308	
MAF Btu/lb		8237	

Ultimate (%)

Moisture	19.29	0.00	2.94
Carbon	37.08	45.94	44.59
Hydrogen	4.62	5.73	5.56
Nitrogen	0.56	0.69	0.67
Sulfur	0.108	0.134	0.130
Ash	7.89	9.78	9.49
Oxygen*	30.45	37.73	36.62
Total	100.00	100.00	100.00

Chlorine**	0.097	0.121	0.117
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Air Dry Loss (%)

16.85

Forms of Sulfur, as S, (%)

Sulfate
Pyritic
Organic

Total 0.108

Water Soluble Alkalies (%)

Na₂O 0.089
K₂O 0.296

* Oxygen by difference

** Not usually reported as part of the ultimate analysis.

Lb. Alkali Oxide/MM Btu = 1.06
Lb. Ash/MM Btu= 13.16
Lb. SO₂/MM Btu= 0.360
Lb. Cl/MM Btu= 0.16
F-Factor(dry), DSCF/MM Btu= 9,953

Report Prepared By:

Mark A. Pugh
Fuel Laboratory Manager



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SAMPLE SUBMITTAL FORM

Sample Identification

BOILER FUEL FEED

Date

8/12/19

- ☒ Ultimate, Proximate, & BTU
- ☐ Ultimate
- ☐ Proximate
- ☐ Moisture
- ☐ Ash
- ☐ Sulfur
- ☐ Calorific Value. BTU / lb
- ☒ Chlorine
- ☐ Elemental Analysis of ash (Si, A1, Ti, Fe, Ca, Mg, Na, K, P, S as oxides)
- ☒ Chlorine in ash
- ☒ Carbon Dioxide in ash
- ☐ Fusion temperatures of ash (oxidizing & reducing)
- ☒ Water soluble alkalis (Na₂O & K₂O)
- ☐ Water soluble calcium (CaO)
- ☒ Alkali, Lbs / MMBTU (Need Na₂O & K₂O in ash If Elemental is not run)
- ☐ Sodium in ash (Na₂O)
- ☐ Potassium in ash (K₂O)

Submit samples to:

Hazen research, Inc.
Attn: Gerard H Cunningham
4601 Indiana St.
Golden, Colorado 80403

Reports & Billing to:

Colmac Energy, Inc.
Paula Bates
Po Box 758
Mecca, Ca. 92254- 0758